

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298

Tel: (716)691-2600

TestAmerica Job ID: 480-28730-1

Client Project/Site: Olin Chemical Wilmington MA Superfund S

For:

Olin Corporation

PO BOX 248

Charleston, Tennessee 37310-0248

Attn: Mr. James Cashwell



Authorized for release by:

12/4/2012 12:41:47 PM

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LINKS

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OF PARAMETERS ORDERED BY:
12/12/12

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F	MS or MSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	RPD of the MS and MSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Job ID: 480-28730-1

Laboratory: TestAmerica Buffalo

Narrative

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/17/2012; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.8, 2.0, 2.1, 2.6, 3.0, 3.4, 3.7 and 3.8 C.

TOTAL METALS

Samples OC-SD-SD1 (480-28730-1), OC-SD-SD2 (480-28730-2), OC-SD-SD3 (480-28730-3), OC-SD-SD4 (480-28730-4), OC-SD-SD5 (480-28730-5) and OC-SD-SD5-DUP (480-28730-6) were analyzed for total metals in accordance with SW846 6010. The samples were prepared and analyzed on 11/21/2012.

Iron was detected in method blank MB 480-92192/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

Chromium and Iron failed the recovery criteria low for the MS of sample OC-SD-SD5 (480-28730-5) in batch 480-92420. Aluminum failed the recovery criteria high. Aluminum, Chromium and Iron failed the recovery criteria low for the MSD of sample OC-SD-SD5 (480-28730-5) in batch 480-92420. Aluminum, Chromium and Iron exceeded the rpd limit. The associated LCS and LCSD recovered within control limits. Refer to the QC report for details.

At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

No other difficulties were encountered during the total metals analyses.

All other quality control parameters were within the acceptance limits.

PERCENT SOLIDS

Samples OC-SD-SD1 (480-28730-1), OC-SD-SD2 (480-28730-2), OC-SD-SD3 (480-28730-3), OC-SD-SD4 (480-28730-4), OC-SD-SD5 (480-28730-5) and OC-SD-SD5-DUP (480-28730-6) were analyzed for percent solids in accordance with EPA Moisture. The samples were analyzed on 11/20/2012.

No difficulties were encountered during the % solids analyses.

All quality control parameters were within the acceptance limits.

MassDEP Analytical Protocol Certification Form

Laboratory Name: **TestAmerica Buffalo** Project #: **480-28730-1**

Project Location: **Olin Chemical Superfund Site** RTN:

This form provides certifications for the following data set: list Laboratory Sample ID Number(s):

480-28730-(1-6)

Matrices: ☐ Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocols (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	Mass DEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	Mass DEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	Mass DEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input checked="" type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No ¹

¹ All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: 

Position: **Laboratory Director-TestAmerica Westfield**

Printed Name: **Steven C. Hartmann**

Date: **12/4/12 12:36**

This form has been electronically signed and approved

Detection Summary

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Client Sample ID: OC-SD-SD1

Lab Sample ID: 480-28730-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	67		0.63	0.25	mg/Kg	1		✱	6010	Total/NA
Aluminum	7100		13	5.5	mg/Kg	1		✱	6010	Total/NA
Iron	9000	B	13	1.4	mg/Kg	1		✱	6010	Total/NA

Client Sample ID: OC-SD-SD2

Lab Sample ID: 480-28730-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	430		0.54	0.22	mg/Kg	1		✱	6010	Total/NA
Aluminum	5100		11	4.7	mg/Kg	1		✱	6010	Total/NA
Iron	6200	B	11	1.2	mg/Kg	1		✱	6010	Total/NA

Client Sample ID: OC-SD-SD3

Lab Sample ID: 480-28730-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	41		0.62	0.25	mg/Kg	1		✱	6010	Total/NA
Aluminum	6600		12	5.4	mg/Kg	1		✱	6010	Total/NA
Iron	9600	B	12	1.4	mg/Kg	1		✱	6010	Total/NA

Client Sample ID: OC-SD-SD4

Lab Sample ID: 480-28730-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	24		0.66	0.26	mg/Kg	1		✱	6010	Total/NA
Aluminum	7700		13	5.8	mg/Kg	1		✱	6010	Total/NA
Iron	9900	B	13	1.4	mg/Kg	1		✱	6010	Total/NA

Client Sample ID: OC-SD-SD5

Lab Sample ID: 480-28730-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	460		0.75	0.30	mg/Kg	1		✱	6010	Total/NA
Aluminum	11000		15	6.6	mg/Kg	1		✱	6010	Total/NA
Iron	14000	B	15	1.7	mg/Kg	1		✱	6010	Total/NA

Client Sample ID: OC-SD-SD5-DUP

Lab Sample ID: 480-28730-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	450		0.83	0.33	mg/Kg	1		✱	6010	Total/NA
Aluminum	9800		17	7.3	mg/Kg	1		✱	6010	Total/NA
Iron	11000	B	17	1.8	mg/Kg	1		✱	6010	Total/NA

Client Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Client Sample ID: OC-SD-SD1

Date Collected: 11/16/12 11:30

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-1

Matrix: Solid

Percent Solids: 73.6

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	67		0.63	0.25	mg/Kg	☼	11/21/12 10:20	11/21/12 21:14	1
Aluminum	7100		13	5.5	mg/Kg	☼	11/21/12 10:20	11/21/12 21:14	1
Iron	9000	B	13	1.4	mg/Kg	☼	11/21/12 10:20	11/21/12 21:14	1

Client Sample ID: OC-SD-SD2

Date Collected: 11/16/12 11:25

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-2

Matrix: Solid

Percent Solids: 79.3

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	430		0.54	0.22	mg/Kg	☼	11/21/12 10:20	11/21/12 21:16	1
Aluminum	5100		11	4.7	mg/Kg	☼	11/21/12 10:20	11/21/12 21:16	1
Iron	6200	B	11	1.2	mg/Kg	☼	11/21/12 10:20	11/21/12 21:16	1

Client Sample ID: OC-SD-SD3

Date Collected: 11/16/12 11:15

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-3

Matrix: Solid

Percent Solids: 75.5

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	41		0.62	0.25	mg/Kg	☼	11/21/12 10:20	11/21/12 21:19	1
Aluminum	6600		12	5.4	mg/Kg	☼	11/21/12 10:20	11/21/12 21:19	1
Iron	9600	B	12	1.4	mg/Kg	☼	11/21/12 10:20	11/21/12 21:19	1

Client Sample ID: OC-SD-SD4

Date Collected: 11/16/12 11:00

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-4

Matrix: Solid

Percent Solids: 65.8

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	24		0.66	0.26	mg/Kg	☼	11/21/12 10:20	11/21/12 21:21	1
Aluminum	7700		13	5.8	mg/Kg	☼	11/21/12 10:20	11/21/12 21:21	1
Iron	9900	B	13	1.4	mg/Kg	☼	11/21/12 10:20	11/21/12 21:21	1

Client Sample ID: OC-SD-SD5

Date Collected: 11/16/12 10:45

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-5

Matrix: Solid

Percent Solids: 65.6

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	460		0.75	0.30	mg/Kg	☼	11/21/12 10:20	11/21/12 21:23	1
Aluminum	11000		15	6.6	mg/Kg	☼	11/21/12 10:20	11/21/12 21:23	1
Iron	14000	B	15	1.7	mg/Kg	☼	11/21/12 10:20	11/21/12 21:23	1

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Client Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Client Sample ID: OC-SD-SD5-DUP

Lab Sample ID: 480-28730-6

Date Collected: 11/16/12 10:45

Matrix: Solid

Date Received: 11/17/12 09:00

Percent Solids: 60.5

Method: 6010 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	450		0.83	0.33	mg/Kg	⚠	11/21/12 10:20	11/21/12 21:39	1
Aluminum	9800		17	7.3	mg/Kg	⚠	11/21/12 10:20	11/21/12 21:39	1
Iron	11000	B	17	1.8	mg/Kg	⚠	11/21/12 10:20	11/21/12 21:39	1

QC Sample Results

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Method: 6010 - Metals (ICP)

Lab Sample ID: MB 480-92192/1-A

Matrix: Solid

Analysis Batch: 92420

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 92192

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.49	0.19	mg/Kg		11/21/12 10:20	11/21/12 21:03	1
Aluminum	ND		9.7	4.3	mg/Kg		11/21/12 10:20	11/21/12 21:03	1
Iron	3.78	J	9.7	1.1	mg/Kg		11/21/12 10:20	11/21/12 21:03	1

Lab Sample ID: LCDSRM 480-92192/3-A LCDSRM

Matrix: Solid

Analysis Batch: 92420

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 92192

Analyte	Spike Added	LCDSRM Result	LCDSRM Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	351	113		mg/Kg		32.1	23.6 - 43.9	2	20
Aluminum	68200	7640		mg/Kg		11.2	5.9 - 21.4	3	20
Iron	42900	11100		mg/Kg		25.9	9.8 - 50.8	0	20

Lab Sample ID: LCSSRM 480-92192/2-A

Matrix: Solid

Analysis Batch: 92420

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 92192

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	351	115		mg/Kg		32.6	23.6 - 43.9		
Aluminum	68100	7900		mg/Kg		11.6	5.9 - 21.4		
Iron	42900	11100		mg/Kg		26.0	9.8 - 50.8		

Lab Sample ID: 480-28730-5 MS

Matrix: Solid

Analysis Batch: 92420

Client Sample ID: OC-SD-SD5

Prep Type: Total/NA

Prep Batch: 92192

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	460		59.8	505	4	mg/Kg	⚠	69	75 - 125		
Aluminum	11000		2990	15100	F	mg/Kg	⚠	148	75 - 125		
Iron	14000	B	2990	15900	4	mg/Kg	⚠	55	75 - 125		

Lab Sample ID: 480-28730-5 MSD

Matrix: Solid

Analysis Batch: 92420

Client Sample ID: OC-SD-SD5

Prep Type: Total/NA

Prep Batch: 92192

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	460		56.8	321	4 F	mg/Kg	⚠	-252	75 - 125	45	35
Aluminum	11000		2840	9650	F	mg/Kg	⚠	-36	75 - 125	44	35
Iron	14000	B	2840	10900	4 F	mg/Kg	⚠	-117	75 - 125	37	35

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QC Association Summary

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Metals

Prep Batch: 92192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-28730-1	OC-SD-SD1	Total/NA	Solid	3050B	
480-28730-2	OC-SD-SD2	Total/NA	Solid	3050B	
480-28730-3	OC-SD-SD3	Total/NA	Solid	3050B	
480-28730-4	OC-SD-SD4	Total/NA	Solid	3050B	
480-28730-5	OC-SD-SD5	Total/NA	Solid	3050B	
480-28730-5 MS	OC-SD-SD5	Total/NA	Solid	3050B	
480-28730-5 MSD	OC-SD-SD5	Total/NA	Solid	3050B	
480-28730-6	OC-SD-SD5-DUP	Total/NA	Solid	3050B	
LCDSRM 480-92192/3-A LCDSR	Lab Control Sample Dup	Total/NA	Solid	3050B	
LCSSRM 480-92192/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 480-92192/1-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 92420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-28730-1	OC-SD-SD1	Total/NA	Solid	6010	92192
480-28730-2	OC-SD-SD2	Total/NA	Solid	6010	92192
480-28730-3	OC-SD-SD3	Total/NA	Solid	6010	92192
480-28730-4	OC-SD-SD4	Total/NA	Solid	6010	92192
480-28730-5	OC-SD-SD5	Total/NA	Solid	6010	92192
480-28730-5 MS	OC-SD-SD5	Total/NA	Solid	6010	92192
480-28730-5 MSD	OC-SD-SD5	Total/NA	Solid	6010	92192
480-28730-6	OC-SD-SD5-DUP	Total/NA	Solid	6010	92192
LCDSRM 480-92192/3-A LCDSR	Lab Control Sample Dup	Total/NA	Solid	6010	92192
LCSSRM 480-92192/2-A	Lab Control Sample	Total/NA	Solid	6010	92192
MB 480-92192/1-A	Method Blank	Total/NA	Solid	6010	92192

General Chemistry

Analysis Batch: 92101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-28730-1	OC-SD-SD1	Total/NA	Solid	Moisture	
480-28730-2	OC-SD-SD2	Total/NA	Solid	Moisture	
480-28730-3	OC-SD-SD3	Total/NA	Solid	Moisture	
480-28730-4	OC-SD-SD4	Total/NA	Solid	Moisture	
480-28730-5	OC-SD-SD5	Total/NA	Solid	Moisture	
480-28730-5 MS	OC-SD-SD5	Total/NA	Solid	Moisture	
480-28730-5 MSD	OC-SD-SD5	Total/NA	Solid	Moisture	
480-28730-6	OC-SD-SD5-DUP	Total/NA	Solid	Moisture	

TestAmerica Buffalo

Lab Chronicle

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Client Sample ID: OC-SD-SD1

Date Collected: 11/16/12 11:30

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-1

Matrix: Solid

Percent Solids: 73.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			+0.5433 g	50 mL	92192	11/21/12 10:20	SS	TAL BUF
Total/NA	Analysis	6010		1			92420	11/21/12 21:14	LH	TAL BUF
Total/NA	Analysis	Moisture		1			92101	11/20/12 20:41	MD	TAL BUF

Client Sample ID: OC-SD-SD2

Date Collected: 11/16/12 11:25

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-2

Matrix: Solid

Percent Solids: 79.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			+0.5839 g	50 mL	92192	11/21/12 10:20	SS	TAL BUF
Total/NA	Analysis	6010		1			92420	11/21/12 21:16	LH	TAL BUF
Total/NA	Analysis	Moisture		1			92101	11/20/12 20:41	MD	TAL BUF

Client Sample ID: OC-SD-SD3

Date Collected: 11/16/12 11:15

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-3

Matrix: Solid

Percent Solids: 75.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			+0.5357 g	50 mL	92192	11/21/12 10:20	SS	TAL BUF
Total/NA	Analysis	6010		1			92420	11/21/12 21:19	LH	TAL BUF
Total/NA	Analysis	Moisture		1			92101	11/20/12 20:41	MD	TAL BUF

Client Sample ID: OC-SD-SD4

Date Collected: 11/16/12 11:00

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-4

Matrix: Solid

Percent Solids: 65.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			+0.5775 g	50 mL	92192	11/21/12 10:20	SS	TAL BUF
Total/NA	Analysis	6010		1			92420	11/21/12 21:21	LH	TAL BUF
Total/NA	Analysis	Moisture		1			92101	11/20/12 20:41	MD	TAL BUF

Client Sample ID: OC-SD-SD5

Date Collected: 11/16/12 10:45

Date Received: 11/17/12 09:00

Lab Sample ID: 480-28730-5

Matrix: Solid

Percent Solids: 65.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			+0.5079 g	50 mL	92192	11/21/12 10:20	SS	TAL BUF
Total/NA	Analysis	6010		1			92420	11/21/12 21:23	LH	TAL BUF
Total/NA	Analysis	Moisture		1			92101	11/20/12 20:41	MD	TAL BUF

TestAmerica Buffalo

Lab Chronicle

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Client Sample ID: OC-SD-SD5-DUP

Lab Sample ID: 480-28730-6

Date Collected: 11/16/12 10:45

Matrix: Solid

Date Received: 11/17/12 09:00

Percent Solids: 60.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			±0.5001 g	50 mL	92192	11/21/12 10:20	SS	TAL BUF
Total/NA	Analysis	6010		1			92420	11/21/12 21:39	LH	TAL BUF
Total/NA	Analysis	Moisture		1			92101	11/20/12 20:41	MD	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Laboratory: TestAmerica Buffalo

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0686	07-06-13
California	NELAC	9	1169CA	09-30-13
Connecticut	State Program	1	PH-0568	09-30-14
Florida	NELAC	4	E87672	06-30-13
Georgia	State Program	4	N/A	03-31-13
Georgia	State Program	4	956	06-30-13
Georgia	State Program	4	956	06-30-13
Illinois	NELAC	5	200003	09-30-13
Iowa	State Program	7	374	03-01-13
Kansas	NELAC	7	E-10187	01-31-13
Kentucky	State Program	4	90029	12-31-12
Kentucky (UST)	State Program	4	30	04-01-13
Louisiana	NELAC	6	02031	06-30-13
Maine	State Program	1	NY00044	12-04-12
Maryland	State Program	3	294	03-31-13
Massachusetts	State Program	1	M-NY044	06-30-13
Michigan	State Program	5	9937	04-01-13
Minnesota	NELAC	5	036-999-337	12-31-12
New Hampshire	NELAC	1	2973	09-11-13
New Hampshire	NELAC	1	2337	11-17-13
New Jersey	NELAC	2	NY455	06-30-13
New York	NELAC	2	10026	03-31-13
North Dakota	State Program	8	R-176	03-31-13
Oklahoma	State Program	6	9421	08-31-13
Oregon	NELAC	10	NY200003	06-09-13
Pennsylvania	NELAC	3	68-00281	07-31-13
Rhode Island	State Program	1	LAO00328	12-31-13
Tennessee	State Program	4	TN02970	04-01-13
Texas	NELAC	6	T104704412-11-2	07-31-13
USDA	Federal		P330-11-00386	11-22-14
Virginia	NELAC	3	460185	09-14-13
Washington	State Program	10	C784	02-10-13
West Virginia DEP	State Program	3	252	09-30-13
Wisconsin	State Program	5	998310390	08-31-13

Method Summary

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Method	Method Description	Protocol	Laboratory
6010	Metals (ICP)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Olin Corporation
Project/Site: Olin Chemical Wilmington MA Superfund S

TestAmerica Job ID: 480-28730-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-28730-1	OC-SD-SD1	Solid	11/16/12 11:30	11/17/12 09:00
480-28730-2	OC-SD-SD2	Solid	11/16/12 11:25	11/17/12 09:00
480-28730-3	OC-SD-SD3	Solid	11/16/12 11:15	11/17/12 09:00
480-28730-4	OC-SD-SD4	Solid	11/16/12 11:00	11/17/12 09:00
480-28730-5	OC-SD-SD5	Solid	11/16/12 10:45	11/17/12 09:00
480-28730-6	OC-SD-SD5-DUP	Solid	11/16/12 10:45	11/17/12 09:00

Login Sample Receipt Checklist

Client: Olin Corporation

Job Number: 480-28730-1

Login Number: 28730

List Source: TestAmerica Buffalo

List Number: 1

Creator: Robitaille, Zach L

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	OLIN CORP
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

